INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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July 14, 2003

TO: Interested Parties / Applicant

RE: Kentuckiana Pet Cremation **019-17366-00111**
FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision - Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures

FNPERAM.wpd 8/21/02

Mr. Richard Pyke
Kentuckiana Pet Cremation
P.O. Box 206
209 South Ferguson Street
Henryville, Indiana 47126

Dear Mr. Pyke:

Re: Exempt Construction and Operation Status,
019-17366-00111

The application from Kentuckiana Pet Cremation, received on June 5, 2003 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following equipment to be located at 209 South Ferguson Street, Henryville, Indiana 47126, is classified as exempt from air pollution permit requirements:

(a) one (1) crematory incinerator with an afterburner for dead animal remains, identified as BL-02, maximum capacity of 150 pounds per hour, supplemented by natural gas fuel, with a maximum heat input rate of 1.50 million British Thermal Units per hour (mmBtu/hr) (primary chamber at 0.50 mmBtu/hr and secondary chamber at 1.00 mmBtu/hr).

The following conditions shall be applicable:

(1) Opacity Limitations [326 IAC 5-1-2]
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity) monitor in a six (6) hour period.

(2) Incinerators [326 IAC 4-2-2]
(a) Pursuant to 326 IAC 4-2-2, the proposed animal crematory incinerator shall comply with the following requirements:
(1) Consist of primary and secondary chambers or the equivalent.
(2) Be equipped with a primary burner unless burning only wood products.
(3) Comply with 326 IAC 5-1 and 326 IAC 2.
(4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in subsection (b).
(5) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with solid waste capacity less than two hundred (200) pounds per hour.
(6) If any of the requirements of subdivisions (1) through (5) are not met, then the

owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

(b) An owner or operator developing an operation and maintenance plan pursuant to subsection (a)(4) must comply with the following:

(1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in subsection (a)(5) and include the following:

(A) Procedures for receiving, handling, and charging waste.
(B) Procedures for incinerator startup and shutdown.
(C) Procedures for responding to a malfunction.
(D) Procedures for maintaining proper combustion air supply levels.
(E) Procedures for operating the incinerator and associated air pollution control systems.
(F) Procedures for handling ash.
(G) A list of wastes that can be burned in the incinerator.

(2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.

(3) The operation and maintenance plan must be readily accessible to incinerator operators.

(4) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

(c) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - Monroe County
Monroe County Health Department
Air Compliance - Jim Thorpe
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Kentuckiana Pet Cremation
Source Location:	209 South Ferguson, Henryville, Indiana 47126
County:	Monroe
Exemption No.:	019-17366-00111
SIC Code:	7261
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from Kentuckiana Pet Cremation relating to the construction and operation of the following equipment to be located at 209 South Ferguson, Henryville, Indiana 47126:

(a) one (1) crematory incinerator with an afterburner for dead animal remains, identified as BL-02, maximum capacity of 150 pounds per hour, supplemented by natural gas fuel, with a maximum heat input rate of 1.50 million British Thermal Units per hour (mmBtu/hr) (primary chamber at 0.50 mmBtu/hr and secondary chamber at 1.00 mmBtu/hr).

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
BL-02	Incinerator	20	1.5	1,800	1350

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on June 5, 2003, with additional information received on June 26, 2003.

Emissions Calculations

(a) Incinerator Supplemental Natural Gas Fuel Combustion: See Page 1 of 1 TSD Appendix A of this document for detailed emissions calculations.

(b) Dead Animal Remains (Type IV waste) Cremation Emissions :

The following Emission factors were taken from the EPA website, which were the results of stack testing from a Type IV waste crematory incinerator. The test done was for a larger incinerator with a capacity of 250 pounds per hour (lb/hr).

Crematory Stack Testing Results @ 250 lb/hr)	
Nitrogen Oxides (NOx)	30.1 ppm
Volatile organic Compounds (VOC)	0.5 ppm
Particulate	0.026 gr/dscf @ 7% O2

Proposed Animal Remains Incinerator Emissions:

(1) Nitrogen Oxide (NOx):

Proposed incinerator capacity - 150 lb/hr
Stack tested incinerator capacity - 250

Emission rate from the stack tested incinerator:
(30 ppm * 640 dscm * 60 min/hr * 0.0283 m^3/ft^3
* 1.88 mg/m^3/ppmv) / (453,600 mg/lb) = 0.136 lbs/hr

Proposed incinerator NOx emissions = $\frac{150 \text{ lb/hr}}{250 \text{ lb/hr}} * 0.136 \text{ lbs/hr}$

= 0.082 lbs NOx/hr
= 0.082 lbs NOx/hr * ton/2000 lb * 8760 hr/yr
= 0.36 ton NOx/yr

(2) Volatile Organic Compounds (VOC):

Emission rate from the stack tested incinerator:
(0.5 ppmv * 640 dscf * 60 min/hr * 0.0283 m^3/ft^3
* 0.65 mg/m^3/ppmv) / (453,600 mg/lb) = 0.001 lb/hr

Proposed incinerator VOC emissions = $\frac{150 \text{ lb/hr}}{250 \text{ lb/hr}} * 0.001 \text{ lb/hr}$

= 0.0006 lb/hr
= 0.0006 lb/hr * ton/2000lb * 8760 hr/yr
= 0.003 ton VOC/yr

(3) Sulfur Dioxide (SO2):

Using AP-42 Emission factor, table 2.1-12 (2.5 lb/ton)

Proposed incinerator SO2 emissions = 150 lb/hr * 2.5 lb/ton * ton/2000 lb * 8760 hr/yr * ton/2000 lb
= 0.82 ton/ SO2yr

(4) Carbon Monoxide (CO):

Type IV waste crematory with a capacity of 125 lb/hr was also stack tested for CO. The CO emissions from the test is 0.007 lb/hr.

Proposed incinerator CO emissions = $\frac{150 \text{ lb/hr}}{125 \text{ lb/hr}} * 0.007 \text{ lb/hr}$

= 0.0084 lb/hr
= 0.0084 lb/hr * 8760 hr/yr * ton/200 lb
= 0.037 ton CO/yr

(5) Particulate Matter Emissions:
PM/PM10 Emission rate from the stack tested incinerator: = 0.026 gr/dscf @ 7% O_2
= 0.103 lb/hr

Proposed incinerator PM/PM10 emissions = 150 lb/hr * 0.103 lb/hr / 250 lb/hr
= 0.062 lb/hr
= 0.04 lb/hr * 8760 hr/yr * ton/200 lb
= 0.27 ton PM/PM10/yr

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Cremation Process Potential To Emit (tons/year)	Natural Gas Combustion Potential To Emit (tons/year)	TOTAL PTE (tons/year)
PM	0.27	0.01	0.28
PM-10	0.27	0.05	0.32
SO_2	0.82	0.00	0.82
VOC	0.003	0.04	0.043
NOx	0.36	0.66	1.02
CO	0.037	0.55	0.587

Justification for the Level of Approval

The new source is subject to 326 IAC 2-5.1-1 since it meets the criteria for an exemption under 326 IAC 2-1.1-3 or since it is not required to obtain a registration or permit under this rule because the NOx potential to emit is less than ten (10) tons per year, or the particulate matter (PM) or PM10 emission is less than 5 tons per year.

County Attainment Status

The source is located in Monroe County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
Lead	not determined

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Monroe County has been designated as attainment for ozone.

Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Potential To Emit (tons/year)
PM	0.28
PM-10	0.32
SO_2	0.82
VOC	0.043
NOx	1.02
CO	0.587

(a) This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)
This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:
(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

(a) 326 IAC 12 and 40 CFR 60 (New Source Performance Standard)
This incinerator is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.50, Subpart (E)), because this incinerator has a charge capacity of 1.8 tons per day, which is less than 50 tons per day, the applicability threshold of this subpart.

(b) 326 IAC 14 and 40 CFR 61, and 63 (National Emission Standard For Hazardous Air Pollutants) . The incinerator is not subject to Emission Standard For Hazardous Air Pollutants, 326 IAC 14 and 40 CFR 61, and 63, as no hazardous air pollutants covered under these rules are emitted from this facility.

State Rule Applicability

(a) 326 IAC 2-6 (Emission Reporting)
This facility is not subject to 326 IAC 2-6 (Emission Reporting), because the source does not have the potential to emit more than 100 tons/yr of NOx.

(b) 326 IAC 4-2-2 (Incinerators)
(1) Pursuant to 326 IAC 4-2-2, the proposed animal crematory incinerator shall comply with the following requirements:

(A) Consist of primary and secondary chambers or the equivalent.
(B) Be equipped with a primary burner unless burning only wood products.
(C) Comply with 326 IAC 5-1 and 326 IAC 2.
(D) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in subsection (2).
(E) Not emit particulate matter in excess of five-tenths (0.5) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with solid waste capacity less than two hundred (200) pounds per hour.
(F) If any of the requirements of subdivisions (A) through (E) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

(2) An owner or operator developing an operation and maintenance plan pursuant to subsection (1)(D) must comply with the following:
(A) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in subsection (1)(E) and include the following:
(a) Procedures for receiving, handling, and charging waste.
(b) Procedures for incinerator startup and shutdown.
(c) Procedures for responding to a malfunction.
(d) Procedures for maintaining proper combustion air supply levels.
(e) Procedures for operating the incinerator and associated air pollution control systems.
(f) Procedures for handling ash.
(g) A list of wastes that can be burned in the incinerator.
(B) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
(C) The operation and maintenance plan must be readily accessible to incinerator operators.
(D) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

(4) The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

The manufacturer guarantees particulate emission rate for the incinerator at 0.5 pounds per 1,000 pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air.

(c) 326 IAC 7-1.1-1 (Sulfur dioxide emission Limitations)
This natural gas-fired incinerator is not subject to 326 IAC 7-1.1-1 (Sulfur dioxide emission Limitations), because the incinerator does not have the potential to emit twenty-five (25) tons of sulfur dioxide per year or have actual emissions of ten (10) pounds of sulfur dioxide per hour.

(d) 326 IAC 8-1-6 (general provisions relating to VOC rules- general reduction requirements for new facilities)
This natural gas-fired incinerator is not subject to this rule, because it does not have the potential emissions of twenty-five (25) tons of VOC per year, and none of the article 8 rule apply to this incinerator.

(e) 326 IAC 9-1-1 (Carbon Monoxide emission Limits)
This natural gas-fired incinerator burns the waste gas stream in a secondary chamber, and also equipped with an afterburner control. Therefore, this incinerator is in compliance with this rule.

(f) 326 IAC 10-1-1 (Nitrogen Oxides Rules)
This natural gas -fired incinerator is not located in Clark and Floyd Counties, therefore, this rule does not apply to this incinerator.

Conclusion

The construction of this incinerator shall be subject to the conditions of the attached **Exemption 019-17366-00111*.***

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: Kentuckiana Pet Cremation
Address City IN Zip: 209 South Ferguson, Henryville, IN 47126
Exemption No.: 019-17366
Plt ID: 019-00111
Reviewer: Aida De Guzman
Date Application Received: June 5, 2003

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
1.5	13.1

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.01	0.05	0.00	0.66	0.04	0.55

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 7/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).